

IN THE SPECIFICATION:

Page 1, before the first paragraph, insert and center

BACKGROUND OF THE INVENTION.

Page 2, between the third and fourth full paragraph, insert and center

SUMMARY OF THE INVENTION.

Page 4, between the twelfth and thirteenth paragraphs, insert and center

BRIEF DESCRIPTION OF THE DRAWINGS.

Page 5, between the first and second paragraphs, insert and center

DETAILED DESCRIPTION OF THE INVENTION.

Page 5, third full paragraph, delete in its entirety, and replace with the following

paragraph:

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The first step (Figure 1A) shows a sensor 1 at the surface 2 of which an oligonucleotide 3 is immobilised by its end 3'. This oligonucleotide 3 is more generally designated "detection molecule 4". This immobilisation may be effected either by a suitable treatment of the sensor surface to allow a covalent link to be established with end 3' of oligonucleotide 3, or by a thermochemical method or by a photo-immobilisation technique by means of a polymerisable cross linking agent, as will be explained in more detail in the following examples. This detection molecule includes a specific nucleotide sequence which, via hybridisation (Figure 1B) will allow an elementary strand 5 of the biochemical entity 6 to be analysed to be immobilised, this elementary strand having a complementary nucleotide sequence to that of detection molecule 4.

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cont.
This hybridisation is effected by leaving end 3' of elementary strand 5 free. In the next step (Figure 1C), monomer nucleotides 7 have been added, hereinafter designated by the usual abbreviation dNTP, and an enzyme 10, such as a transferase at end 3'. This enzyme 10 will specifically catalyse the formation of covalent links between end 3' of elementary strand 5 and successively the nucleotides added to the medium to create a polymer chain formation 9 which will increase the total mass at the surface, which will mean a measurable variation in the refractive index. In the event that the nucleotides added to the medium are labelled with a fluorescent label, this increase in mass will ~~means~~mean an accumulation of labelled nucleotides at the surface of the sensor and a global decrease in fluorescence in the medium.
